

Date: Fri, 15 Jan 93 09:06:35 PST
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
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Subject: Info-Hams Digest V93 #65
To: Info-Hams

Info-Hams Digest Fri, 15 Jan 93 Volume 93 : Issue 65

Today's Topics:

 Alinco DR-570T/E
 Anybody want to talk about Clover?
 Beginner's Rig
 Condo Communications #1
 Condo Communications #2
 FCC General Radiotelephone license in aviation
 Icom no fail memory
 Melbourne - Florida Institute of Technology Hamfest
 radio wave jamming or scrambling...
 RFI susceptibility of new cars?

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 15 Jan 1993 15:47:15 GMT
From: yuma!longs.LANCE.ColoState.Edu!gw214790@purdue.edu
Subject: Alinco DR-570T/E
To: info-hams@ucsd.edu

I just bought one of these radios and I'm interested in mods, tricks, whines,
exultations, discussions, etc regarding the little box. I have a newer? one,
it has a RADIO-REPEATER switch on the top panel.

I'd like to know how to expand the 70cm receive, if possible.

Please post responses so all can be enlightened.

73,
Galen, KF0YJ

Date: 15 Jan 93 16:25:02 GMT
From: idacrd!wahoo!n4hy@uunet.uu.net
Subject: Anybody want to talk about Clover?
To: info-hams@ucsd.edu

de N3HAU:

>easy access to communication major grad students. There doesn't
>appear to be any documentation on writing your own DSP routines that
>came with the AEA. Where can one obtain documentation on the AEA
>DSP engine (programming it and such)??

I am no longer associated with AEA in any way so you will have to take that
up with them. I think it is a great oversight on their part not to make
(1) the programming model and (2) example code available. This would
get them stuff done for free.

BMc

Date: 15 Jan 93 16:14:12 GMT
From: furuta@MIMSY.CS.UMD.EDU
Subject: Beginner's Rig
To: info-hams@ucsd.edu

In article <9301142246.AA06289@opus.xyplex.com> sasminkey@eng.xyplex.com writes:
>>Just a Tip ... Radio Shack just put their HDX-100 ten meter rig
>>on sale for \$199.

>

[...]

>again (late 1990s). If you want to buy for the *future*, i.e., the sunspot
>peak years, then it might make sense to consider the Radio Shack 10m rig.

Just a further bit of information. I asked an employee at a Radio Shack in
WA to check on the price of this rig when I passed through this Sunday.
According to his computer listing, this is a closeout price.

He speculated that it was going to be replaced by something new but given
the sunspot cycle I would speculate that perhaps Radio Shack intends to get
out of the 10m business (it would seem like a good time). Anyone know the
truth?

--Rick

Date: Fri, 15 Jan 93 15:18:19 GMT
From: mnemosyne.cs.du.edu!mercury.cair.du.edu!diana.cair.du.edu!
awinterb@uunet.uu.net
Subject: Condo Communications #1
To: info-hams@ucsd.edu

I've been asked to put on Internet the Condo Communications newsletter. This has previously been circulated on packet and in a modified form on Hap Holly's R.A.I.N. (Radio Amateur Information Network). Enjoy!--N00QS

=====
Part 1

Welcome to the first edition of Condo Communications, a newsletter devoted to those amateurs who, for various reasons, must configure their stations to operate from restrictive areas such as condos, apartments, townhouses, neighborhoods with outdoor antenna restrictions, ships/boats, mobile homes, or wherever they fry their burgers and call QTH.

The objective of this newsletter is to encourage us to investigate means of employing all of the modes available to us for as many different purposes as possible. For examples, how can we use:

- ATV
- SSB/CW
- FM
- Spread Spectrum
- Digital modes

on

- HF thru microwave

for

- Traffic handling
- Emergency communications
- Ragchewing
- DXing
- Technical exchange

with

- QRO

QRP

on

Batteries
Portable generators
AC Mains

and

Attic
Invisible
Portable/Temporary antennas

while causing as little RFI as possible?

Part 2

This part of Condo Communications will be devoted to station descriptions that you submit. I'll get the ball rolling with a description of my QTH.

I live in a wooden, 2-story townhouse topped with a modest attic. The usable space in the attic is about 25 x 25 feet and is floored with plywood. On top of the roof is a small wooden "cubicle" about 2.5 feet tall by 4 feet by 2 feet in which the air conditioner is housed.

The hf rig consists of a (somewhat modified) Ramsey kit 20-meter transmitter (at about 1/2 watt output), its companion 20-meter DC receiver, an MFJ tuner, a home-brewed artificial ground, and two antennas: a 1/2 wave 20-meter loop around the bedroom ceiling and an Isotron 20-meter "bird cage" poked away in the aforementioned air conditioner cubicle on the roof. An ancient GPR-90 receiver comes in handy for picking up WEFAX satellite photos relayed by Point Reyes and for just checking out the DC receiver under marginal conditions. Occasionally, I drag out the old re-conditioned DX-20, but 30 watts out is too easy (and too much TVI!).

The VHF rig is mostly used for packet: an Alinco DJ-F1 HT, an old XT clone, a home-built Bell 202 modem used with Poor Man's Packet, and a J-pole suspended from the rafters in the attic.

And what have I been able to do with such modest equipment? Quite a lot!

Part 3

Operate from a townhouse, half a watt, with indoor antennas? Impossible, you

say. Nay, sir. A gas! I've made plenty of QSOs throughout the country, coast to coast, and well into Canada and Mexico with this little arrangement. Every contact is DX as far as I'm concerned. Anyhow, the tx and rx, along with a rolled up dipole, a battery, and a few other odds and ends pack up neatly into two bicycle bags for the summertime bike ride to the local reservoir.

And QRP really cuts down on the RFI. I wouldn't mind running the DX-20 a bit more, but even with low-pass filters it wipes out channel 2 and does a bit of damage to channel 6 to TVs in my building and the one next door. I wonder if a good electrical ground would help? That's quite a ways off in this unit, and hooking up to the bathroom copper pipe made no difference.

With VHF packet I can connect to several nearby gateways for HF fun, local and occasionally DX, and have even hooked up with the Fuji satellite courtesy of NONBH's pacsat gate. I even contacted MIR once on a very early morning pass, with just 5 watts to the J-pole. And I can pass and deliver NTS traffic via packet.

The HT, of course, can be chunked into the car for ARES work or for working with the other local weather spotters in the spring.

Now, let's hear about your setups. How did you get around antenna restrictions?

RFI? What do you use your rigs for?

Part 4

Technical correspondence. Submit any technical notes or tips that might be relevant for condo communications. Examples are antenna construction for tight spaces, RFI problems (and solutions, if you have them), experiments with different modes that failed (or worked), and so on. What about some less common

uses for your gear? Have you experimented with scanning schematics into GIF, TIF, or some other graphic format and pushing them around the local VHF/UHF packet LANS? How about swapping program code/data? Do you think you could become a packet gateway even though you operate from a broom closet in a garden-

level apartment downtown? How about receiving GOES weather satellite images through a layer of wet shingles? How would you operate satellite from a QTH like yours? And how big did the coils get in that super-short dipole you've been experimenting with in the attic? Can you really convert the metal flue in that useless decorative fireplace into a 40-meter vertical?

Nothing particularly complex can go here as we aren't going to get away with trying to circulate via HF links any digitized graphic images or R95-converted binary code. But, if you can draw a simple schematic with keyboard characters, like -/\/- or -||-, then try it and send it in. Of course, you can always

leave an address so readers can submit SASE's for schematic photocopies, block diagrams, photographs, detailed descriptions, software code, etc.

Part 5

Bibliography time. Here are a few articles that might prove interesting reading for condo communicators. I found these in magazines around the shack and will pass on more when possible. Send me bibliographic citations from articles you've read or have found in database searches. If you've read them, pass along comments or critiques as well.

Arland, Rich K7YHA

QRP

Worldradio

Sept. 1992

p. 56. Rich has an article for people who have limited space, work low power, AND want to work the satellites. Receive on 10 meters, transmit on either 15 or 2 meters. Mode A and K charts included.

Balsamello, Joseph W9KJS

Indoor 10-160M Pole-Lamp Antenna

Worldradio

May 1992

p. 68. A pole lamp with one tapped 90-turn, 2.5" diameter, 9" long air core coil (#16 wire) and another identical coil (untapped) was tuned (with a tuner) for operations on all bands. Operated from a 5th floor steel-reinforced condo with good results on all bands. Read this one.

Frazier, Dean NH6XK

Baby Loopy: A Half-Wave, Inductively-Loaded Loop.

73 Amateur Radio Today

Oct. 1992

p. 34. A loop antenna, made to fit small spaces with inductive coils. Provides 3-6 db gain in direction of feed point.

Galgan, Ig WA2VIA

A Clothesline Dipole

QST

Sept. 1991

p. 32. Clip your dipole to one of those reel-in clotheslines and you're in business.

Krieger, Pete WA8KZH

Basic Steps Toward Eliminating Telephone RFI

QST

May 1991

p. 22. If you run more than a few watts with an indoor antenna, chances are good you're going to get into the telephones. This short article discusses troubleshooting, grounding, and filters.

Lau, Zack KH6CP/1

Build a Portable Groundplane Antenna

QST

July 1991

p. 33. A PL-259 plug and some #12 wire results in a quickie 2-meter FLAT groundplane that you can hang in the window on one of those suction cup hooks.

Sloman, Jeffrey N1EW0

The AEA IsoLoop (TM) 10-30: A Big Antenna in a Small Package

73 Amateur Radio Today

Oct 1992

p. 16. Thorough review of the IsoLoop antenna.

Thompson, Nigel KG7SG

A Plumber's Delight Dipole for 2 Meters

QST

Aug 1992

p. 43. A vertical dipole for 2 meters. Could be mounted in a tight attic space or strapped to a chimney. VHF antennas like this are a natural for "covert" operations.

Well, let me know if you've found this newsletter interesting. Send me stuff! It'll go into the next issue which will be released whenever there's enough stuff to go into it. There just has to be a lot of hams out there who, like myself, have failed to achieve the American Dream of a large yard for Rover and the tower, with understanding neighbors who don't mind when you key the kilowatt amp, imploding their TV sets and warming their bath water a couple of degrees.

Inspirational note: There's jillions of Japanese hams living like sardines packed in a tin. And we hear them. How do they do it?

73 de Art

N00QS @ W0GVT.#NECO.CO.USA

--

Art Winterbauer N00QS

Internet: awinterb@du.edu OR awinterb@diana.cair.du.edu

Packet: n0oqs @ w0gvt.#neco.co.usa

Date: Fri, 15 Jan 93 15:19:14 GMT
From: mnemosyne.cs.du.edu!mercury.cair.du.edu!diana.cair.du.edu!
awinterb@uunet.uu.net
Subject: Condo Communications #2
To: info-hams@ucsd.edu

I've been asked to put on Internet the Condo Communications newsletter. This has previously been circulated on packet and in a modified form on Hap Holly's R.A.I.N. (Radio Amateur Information Network). Enjoy!--N00QS

=====

Part 1

Welcome to the second exciting, thrill-packed issue of Condo Communications, a newsletter devoted to those amateurs who, for various reasons, must configure their stations to operate from restrictive areas such as condos, apartments, townhouses, neighborhoods with outdoor antenna restrictions, ships/boats, mobile homes, or wherever they fry their burgers and call QTH.

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WB50AU, AE0Q, AJ5F, N4TCH	
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N3LSY	
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AE0Q, N00QS	

Part 2

STATION DESCRIPTIONS

Seems just about everyone has lived in an apartment at one time or another. John, WB50AU reports:

I operated several years out of a studio apartment, with indoor antennas (Worked all states in one year!) ... it is possible! Keep up the good work...73/john WB50AU @ WB2ARS.NM.USA.NA

Of course, you might just operate as much as possible away from the home QTH, as Glenn, AE0Q, shows us:


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1          I
(+)-      I
I  /-----\
I /-----\
I { 73's
I_I_/_..._AE0Q_/_..._I
    \___/      \___/

```

Part 3

And then some of us live in Faraday cages, as Dave, AJ5F, and XYL, N4TCH, report.

Our version of the "American Dream" was a condo on Miami Beach. We got a great deal on an 11th floor penthouse with a fabulous ocean view that 10 million northerners and Canadians would kill for. Problem: How do 2 licensed hams continue their hobby from said QTH? The attic is a concrete slab 6 inches thick and the condo association said "No antennas on the roof" (after the work the hams here did during Hurricane Andrew, I may get them to change their minds). Soooooo.....antenna is a truck mirror-mount base bolted to the railing on our back porch balcony with a 7 foot tall house plant behind it. The house plant is a perfect disguise. There's a 2m/70cm mobile antenna screwed into the base. I use this for packet, and ragchew on 440. To work HF, since there is only one feedline, and I don't wanna press my luck by running another, we unscrew the 2m/70cm antenna and put in a 20 meter mobile whip. I run a TS-520 with full output (SWR is 1.8:1) with no RFI/TVI (guess the TV cable system here is well built).

The one thing that worries me is grounding. Currently I have a piece of copper bare wire running about to feed to a steel window frame, hoping there might be some ground through the rebar system of the building's structure. Haven't had a problem yet, but who knows? 73 de Dave AJ5F @ W7LUS.#HWDFL.FL.USA.NA

Part 4

Good question, Dave. For an RF ground, you might try an artificial ground (see the bibliography for a reference). Those of us clustered into townhomes, condos, and the like have a tougher time trying to find a good electrical ground. You could try the frame on the electrical socket, but the ground for it may be pretty far away and actually radiate a signal if it's a multiple of a wavelength. How far away is the copper pipe in your bathroom? So, by making a good electrical ground, you may actually worsen your RFI problem. But for those of you fortunate enough to be near to Mama Earth, see the next section: Technical Correspondence.

Now, let's hear from the rest of you. Does anyone operate QRP from a seemingly impossible situation? (After all, I've heard guys who refuse to upgrade to get HF privileges...they live in apartments, so what's the use?). How about QRO. Anyone successfully running maximum legal power from a condo or townhouse? How about running lots of power operating off of batteries or generators, like from a boat or RV? And is it even possible to operate the fancy satellites (like 8J1JBS) from a condo? Or do you keep your satellite rig in the trunk of the car, with antennas strapped to the ski racks, and operate portable only?

Part 5

TECHNICAL CORRESPONDENCE

Did someone mention grounding? N3LSY responds!

Regarding your question as to whether grounding helps with RFI in part 3, I can answer yes. I live in a townhouse and use some rather vintage Hallicrafters gear for my HF work. This is old tube type gear that puts out about a hundred watts or so. I was able to get rid of over 90 percent of my RFI problems, which included TVI, telephone interference, and getting RF burns in the shack by grounding the receiver, transmitter, T-R switch, and Tuner to an eight foot ground rod discreetly sunk into my flower bed, using #10 wire to tie everything together. Individual needs may vary, but use good connectors, heavy wire, and keep wires as short as possible for best effect. This will not only make you a better neighbor, but increase the safety and effectiveness of your shack.
N3LSY @ WB3V.MD.USA

Part 6

Makes sense. After all, when you look inside your equipment, stray RF is bypassed to the chassis through capacitors. You have to provide that final leg of the connection to ground. Now, how many of you perched in strange nests have found clever ways to make that electrical connection without radiating harmonics?

Anybody with more RFI hints? Is there a solution to fundamental overload (overpowering all channels)? How can you avoid coupling into the AC mains with your ceiling-mounted beam? Also, let's hear about the really wacky stuff: using your local 440 Mhz 9600 baud LAN to swap huge program or graphic files (is anyone even doing this?), running a packet gateway from a hideaway, bizarre antennas (especially involving gutters, lawn chairs, or metal siding). Did any of you operate clandestine radios for the military? Can you run 10 Ghz equipment from your 30th floor balcony? How about ATV?

Part 7

BIBLIOGRAPHY

I wish to thank my good friend here in Denver, Glenn, AE0Q, for providing the following references.

1. Orr, Bill W6SAI
Telephone Interference Revisited
CQ
June 1991
pg. 70 Collection of reader's solutions.
2. Rogers, Buck K4ABT
CQ Reviews: The AEA ISOLLOOP HF Antenna
CQ
July 1990
pg. 18 On-air tests and contesting with antenna.
3. Ingram, Dave K4TWJ
CQ Reviews: The Forbes Group VENTENNA
CQ
May 1992
pg. 58 2m/440mHz disguised antennas, roof mount
or indoor use.

Part 8

4. Johns, Robert W3JIP
How To Build An Indoor Transmitting Loop Antenna
CQ
Dec 1991
pg. 30 Part 1 - 10 thru 20 meters

Jan 1992
pg. 42 Part 2 - 40 and 80 meters

Constructed from copper tubing, can be broken
down for portable use.
5. McCoy, Lew W1ICP
The McCoy Dipole and How It Came To Be
CQ
June 1992
pg. 11 Theory and construction of all-band dipoles
that can be made ANY convenient size. Good for attic
installations!!
6. Pollock, John KA7MCX
But Will They Come?

CQ

Aug 1992

pg. 50 AEA Isopole 2m antenna in a disguised
installation, used for bird feeder support!

Part 9

To which I will only add:

7. Brumbaugh, J. Frank KB4ZGC
Artificial RF Ground
73 Amateur Radio Today
April 1991
pg. 10. A nifty little construction article. I built
this device when I was running an end-fed wire strung
all over the townhouse. Didn't do much to reduce TVI
for me, but did provide a counterpoise to that string
of random-length wire.
8. Gibilisco, Stan W1GV
Apartment Antennas: A Challenge
73 Amateur Radio Today
May 1991
pg. 42. A must read for the apartment dweller. All kinds of
things you can do with wire and a tuner. A very good overview
of restricted space antennas.
9. Hines, Jack G. K4GIO
Visual Aids for Tuning Small Loop Antennas
The QRP Quarterly
October 1992
pg. 6. If you operate an IsoLoop type of antenna, this article
shows some tricks for speedier tuning, using the MFJ SWR Analyzer
or a noise bridge.

What have YOU been reading? Pass it along!

N00QS @ W0GVT.#NECO.CO.USA

--

Art Winterbauer N00QS

Internet: awinterb@du.edu OR awinterb@diana.cair.du.edu

Packet: n0oqs @ w0gvt.#neco.co.usa

Date: 15 Jan 1993 15:32:53 GMT

From: digex.com!stephens@uunet.uu.net

Subject: FCC General Radiotelephone license in aviation
To: info-hams@ucsd.edu

In article <1993Jan13.213951.24970@Csl.Stanford.EDU> kawai@csl.Stanford.edu (goh kawai - n6uok) writes:

...Dear all

...

...What is the practical significance of holding an FCC General Radiotelephone
...license as far as aviation is concerned?

...

...I understand that, as far as flying aircraft of U.S. registry within the
...U.S. is concerned, an FCC license is not required to operate the aircraft's
...radio. (The aircraft has its FCC station license, but the pilot does not
...need an FCC operator license.) When flying aircraft of U.S. registry
...outside of the U.S., an FCC Restricted Radio Operator's license is required.
...Am I correct?

...

...I ask this question because at a local aviation store, they were selling a
...textbook for passing the FCC General Radiotelephone license, and the
...implication was that an FCC General Radiotelephone license can be useful in
...aviation. Does this apply to technicians who check, maintain and calibrate
...aviation radio equipment on the ground? Or does it apply to radio operators
...in the air?

...

...I would appreciate any responses that might help clarify this issue. If you
...would prefer to send email to me rather than posting to the net, please send
...email to "kawai@speech.sri.com".

...

...Thank you very much.

...

I believe that the standard "in-plane" radio license that gives
any pilot the right to use the VHF radios within the U.S. is not
sufficient for flights outside the country. I have flown to
Canada on a couple of occasions, and I believe that, somewhere in
my flight bag, is a more general radio license that I needed to do
that. I will check over this weekend, and report back on exactly
what I obtained. I do recall that no examination was required.

Ah, as one gets older, one starts to lose three things... hair,
memory, and (I can't remember).

*	.	*
* John Stephens	.----- -----.	Montgomery County Airpark
* PP-ASEL*IA	\(*)/	(GAI)
* C-172P N51078	o/ \o	Gaithersburg, Maryland
*		*

Date: Fri, 15 Jan 1993 15:25:49 GMT
From: usc!cs.utexas.edu!hermes.chpc.utexas.edu!news.utdallas.edu!corpgate!
brtph560!brtph87!tcain@network.UCSD.EDU
Subject: Icom no fail memory
To: info-hams@ucsd.edu

In article <1993Jan14.182428.28073@tellab5.tellabs.com> jwa@tellabs.com (John W. Albert) writes:

>

>Is anyone interested in a replacement memory board for the
>Icom R71, 751, 745, 271 and 471. This board will have a no
Yes! I have a 471 and am starting to wonder when it will die.
Tom

--

Tom Cain WB80UE tcaain@bnr.ca
disclaimer: i don't speak for nobody!

Date: 15 Jan 93 17:24:54 GMT
From: news-mail-gateway@ucsd.edu
Subject: Melbourne - Florida Institute of Technology Hamfest
To: info-hams@ucsd.edu

Hamfest at Florida Institute of Technology January 16, 1993.

FIT is at 150 W. University Blvd., Melbourne, FL 32901

Outdoors in the main parking lot next to Administration, the hamfest starts at 9 AM and will run to about 1 PM. Admission or a space to tailgate is \$1.

Radio exams will start registration at 9:30 and begin at 10 AM.

For more information contact KD4CRC, Eric Nesbitt, at (407) 768-8000 ext. 8720.

Date: Fri, 15 Jan 1993 15:44:23 GMT
From: usc!cs.utexas.edu!convex!constellation!osuunx.ucc.okstate.edu!
datacomm.ucc.okstate.edu!martin@network.UCSD.EDU
Subject: radio wave jamming or scrambling...
To: info-hams@ucsd.edu

In article <1993Jan14.215606.13895@Csl.Stanford.EDU> kawai@Csl.Stanford.EDU (goh kawai - n6uok) writes:

>I am sure that you can find a mutually satisfactory compromise.

If that were only true. A couple of years ago, my wife and I had the experience of having a couple of guys move in across the street with a world-class stereo. They liked to listen to music at all hours of the night.

After going over to their house and asking nicely, many times, for them to turn it down, We called the police. A policeman talked to one of the music men and then came over to talk to us about it. It seems that the guy was considering just paying the fine for violating the noise laws and continuing right along with the racket. When he wasn't playing the stereo, he and his buddies had a band with lots of drums and guitars. They weren't half bad, but there are times when you want to hear the television or maybe yourself thinking. Fortunately, the school year ended and the jerks moved out.

P.S. I even got on 20-Meters, once, with my measally little 75 Watts in the hopes that our noise makers were connecting their stereo components together with zip cord instead of shielded cable, but no luck. My CQ, however, was answered by a guy in the former USSR, but it didn't trash the sound system across the street.

Martin McCormick WB5AGZ Stillwater, OK
O.S.U. Computer Center Data Communications Group

Date: Fri, 15 Jan 1993 15:49:06 GMT
From: spsgate!mogate!newsgate!usenet@uunet.uu.net
Subject: RFI susceptibility of new cars?
To: info-hams@ucsd.edu

In article <1993Jan14.212703.11364@news.unomaha.edu>
rerickso@cwis.unomaha.edu (Ronald D. Erickson) writes:

> ...

> If you do not connect your radio to your battery, you could fry
> your microprocessor, from what other hams have stated.

> ...

I keep hearing about the dangers of destroying the control computer in one's car by using a transmitter but I really don't understand how RF can DESTROY a computer. I can see how RF might cause the MPU to do wierd things...it happens to the PC in my shack often but at most a re-boot is all that's required. Maybe that's all that's really required on cars and the dealers are royally ripping people off by charging a couple thousand

buck to supposedly replace a damaged computer when in reality all they're doing is a reset?

73... Mark AA7TN

End of Info-Hams Digest V93 #65
